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ABSTRACT

Two major issues in contemporary higher education include equality of access to education and the adequate preparation of graduates for entry into the workforce. Both of these goals are central to the tech prep/associate degree (TPAD) initiative. TPAD combines competency-based teaching, applied learning, curricula focusing on technical and academic skills, and business and industry support. TPAD programs use a "2+2" design, encompassing the last 2 years of high school and 2 years of occupationally-specific postsecondary education culminating in a 2-year Associate degree. The ultimate goal of the initiative is to expand to a 2+2+2 design, with the additional 2 years spent in an institution of higher education and culminating in a Bachelor's degree. Community colleges can play a significant role in addressing issues of access and preparation for work, but it is essential that they maintain well-developed articulation agreements with secondary schools and other postsecondary institutions. As of 1994, approximately 1,000 community colleges were working with 2,500 school districts nationwide to design or implement tech prep curricula. Moreover, a review of 15 states revealed that 7 had undertaken statewide tech prep programs, with Indiana mandating tech prep in all public schools and both California and Ohio embracing the 2+2+2 concept. Contains 23 references. Appendixes provide a graphic showing TPAD elements, data on faculty job satisfaction, and descriptions of articulation programs. (JDI)

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Access to Higher Education and a Meaningful Career Through the Tech/Prep Associate Degree Program

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TECH PREP/ASSOCIATE DEGREE PROGRAM

AND

THE ROLE OF COMMUNITY COLLEGES

Angela J. Alexander

ACCESS TO HIGHER EDUCATION AND A MEANINGFUL CAREER THROUGH THE TECH PREP/ASSOCIATE DEGREE PROGRAM

Higher education must address the development of curricula to help students complete degree programs and be able to enter the work force with the academic, social and technical skills needed in order to be successful. Administrators and those individuals involved in curriculum development must anticipate and identify changes in the modern work place. Educational practices and procedures must be modified to meet these needs.

Access to an appropriate and meaningful education for students of all levels of achievement is the goal of the Tech Prep education program. This program is ideal for the great mass of individuals whose needs are not being met by the college track or the general education track in high school. Although programs and articulation agreements vary from state to state at present, agreement does exist as to what constitutes the basic elements of the Tech Prep program:

- applied learning
- curricula that has strong technical and academic skills as the focus
- a clear tie-in with postsecondary education
- business and industry support

The graduates of Tech Prep programs should be prepared to enter the work force with both the theoretical and practical skills needed to compete successfully for jobs in the technology and information age as well as enter higher education.

CAN THE TECH PREP/ASSOCIATE DEGREE (TPAD) PROGRAM BE A PART OF EDUCATIONAL REFORM THAT INCREASES ACCESS FOR ALL STUDENTS SEEKING POSTSECONDARY AND HIGHER EDUCATION?

At the forefront of the many new initiatives and policies higher education must address is the development of curricula to help students complete degree programs and be able to enter the work force with the necessary academic, social, and technical skills needed in order to be successful. When we think of organizational and institutional response to change, we must be willing to propose a very active kind of response: one which anticipates change; which seeks out and identifies changes needed; uses multiple strategies to bring about change; and which considers a wide range of goals and procedures appropriate to the varied interests and aspirations of a pluralistic society.

This paper will address the issue of access to an appropriate and meaningful education for students of all levels of achievement by discussing the Tech Prep (Technology Preparation) education programs and the role of community colleges in educational reform.

SYNOPSIS OF HOW THE TECH PREP/ASSOCIATE DEGREE (TPAD) PROGRAM WORKS

The Tech Prep/Associate degree (TPAD) program "combines competency- based teaching, articulated programs between secondary and postsecondary institutions and an excellent foundation of applied academics" (VEJ, p.24). Through tech prep, community colleges work with secondary educators to develop courses with an emphasis on the why and how of learning so students can understand the reasons for learning and see how what they learn can and will be used in the world of work. The "2+2" design encompasses the last 2 years of high school and 2 years of occupationally specific postsecondary education that culminates in a 2 year associate degree. A program must begin with a consortium made of representatives of local education agencies, area vocational/technical schools, community colleges and institutions of higher education that offer 2 year associate degrees.

Some of the elements required by law are (1) an articulation agreement between consortium participants (2) a 2+2 design with a common core of proficiency in math, science, communication, and technology, and (3) a specifically designed curriculum that meets the needs of consortium participants. It is also specified that priority be given to tech-prep programs that (1) transfer to 4 year baccalaureate programs and (2) are developed in consultation with business, industry, and labor.

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TECH PREP BACKGROUND

Tech Prep programs, also called Two plus Two (2+2) programs, stem from the Carl D. Perkins Vocational, Technical, and Applied Technology Act of 1990, Public Law 101-392. The statement of purpose reads as follows: "It is the purpose of this act to make the United States more competitive in the world economy by developing more fully the academic and occupational skills of all segments of the population. This purpose will principally be achieved through concentrating resources on improving educational programs leading to academic and occupational skill competencies needed to work in a technologically advanced society.

A leader in the Tech Prep initiative, Dale Parnell, proposes what he has termed a tech-prep associate degree (TPAD) four year program. The Tech-Prep Associate degree program is intended to run parallel to existing college-prep/ baccalaureate degree programs. While still in its infancy, the ultimate desire of tech prep is to expand to a tech prep plus or 2 + 2 + 2 program, the additional two years being spent in a higher education institution culminating with a bachelor's degree. The student graduate of the tech prep program is one who the Carl Perkins Act believes will be best prepared to enter the work force with both the theoretical and practical skills needed for the technology information age.

In Parnell's book, The Neglected Majority, (1985) he identifies tech prep as being a way of reaching the masses. It is his theory that the educational system neglects the majority of society's population when the secondary schools put students in either the college-prep track, vocational track, or general education track which is where the majority of students are placed. According to Parnell, "when seventy-five percent or more of our high-school graduates do not complete the baccalaureate degree and twenty-five percent of those who begin high school do not finish, one must question the validity of the current educational program for the great mass of individuals in the middle quartile of the typical high school student body" (17-18). As a former mentor/educator told me in my earliest years of teaching, it is the "B " and "C" people that make the world go round. Parnell questions whether the ordinary student can experience a meaningful education which would allow him/her to be a contender in a competitive work force.

The concept of the universal education system, according to Parnell, has not met the level of excellence society hopes for and certainly has not done so for the ordinary student. Many well known educators and authors are quoted in The Neglected Majority and they all point to the fact that the perceptions we have of education involve receiving the college degree as the "qualifier" and anything less as being a second-rate education.

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Much discussion leads to the fact that we are already in a rapidly changing information-age and "we must learn quickly new skills of program coordination and continuity in order to provide greater structure and substance in the learning process for all individuals" (11).

National reports and surveys have reported for some time now that there is a shrinking middle class. It is this shrinking middle class, the "neglected majority" that can most benefit from programs such as tech prep and the opportunity to receive access to a postsecondary education and possibly higher education. The Tech Prep programs can provide people access to an education which would culminate in a profitable career opportunity. The basic elements of tech prep are 1) applied learning, 2) curricula that focus on strong technical and academic skills, 3) a clear tie-in with postsecondary education, and 4) business and industry support. (VEJ, p.18). (Appendix A)

COMMUNITY COLLEGE HISTORY/ROLE

Three of the most important events influencing higher education are 1) the establishment of the land-grant university, 2) the establishment of the G I Bill, and 3) the formation of the community college system. On July 13, 1946, President Harry Truman created the President's Commission on Higher Education, later known as the Truman Commission. This report expressed concern about the limited higher education opportunities for a large portion of the nation's citizens. It became the blueprint for developing higher education in post-war America and in it the phrase "community college" first appeared.

Based on the original role/mission of community colleges and the fact that we have entered the information age, it seems logical that the community college can be a significant factor in the educational reform. Ultimately, it may be the community college that can truly address the issue of equality and access to education in a positive and direct manner.

According to Breneman (CHE, 1995) there are several policy considerations to maintain undergraduate access. One of the policy considerations suggested is that community colleges should refocus on their original junior-college function - educating students who plan to transfer to four year institutions and students enrolled in credit-bearing occupational and vocational programs.

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A study of 43 businesses and community leaders on higher education issues such as access, equity, and costs, as well as public opinion polls revealed, that the general public thinks "too many people go to college because there is nowhere else to go." It is also felt that "society already has too many well-educated people and that more vocational offerings...should be available" While community leaders understand and support a broad liberal education, this surveyed group noted the "lack of basic skills and poor business skills" among college students and were also reported to "believe that colleges and universities need restructuring" (HENA, 1995). As legislators around the country address community issues, repeatedly higher education has been given a low priority. The Chronicle of Higher Education (1995) indicates that one reason is due to "several years of shrill public criticism... particularly in the undergraduate education." Certainly this relates to the above reasons which leads to a lack of trust in the system. This lack of trust stems from the changing work force which is requiring individuals to not only be able to "think" but to apply knowledge. Due to the technical nature of jobs, many jobs once held by people with baccalaureate degrees, are now requiring the employee be more technically inclined which places emphasis on applied academic skills and the experience and training needed to do the job, but does not necessarily require a four year degree.

Parnell (1985) discusses the associate degree and describes the community college as "opportunity with excellence." Taken from Parnell's book (88-95) the following are five fundamental elements that generally characterize the excellent community college.

1) Community colleges must be community based.
2) Community colleges endeavor to stay within the financial reach of their students.
3) Community colleges provide a caring environment - a key element in the retention of students and need to address the issues of a pluralistic society.
4) Community colleges have a competent faculty - some of the best teachers are in the community college. In a job satisfaction survey, community teachers "ranked the highest on the faculty -satisfaction scale... the community college offers a setting where the faculty... feel a teaching career is worthy in its own right..." (95). (Appendix B)
5) Community colleges believe in a comprehensive community college program with the liberal arts and technical education programs working in a thoroughly integrated manner.

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The community college has a distinct mission and in an attempt to distinguish itself and find a permanent place, it has also distanced itself from secondary schools, and to a smaller degree, higher education institutions. However, if community colleges are to play a significant role, and they should, in the process of educational reform, it will be necessary for community college administrators to assume a leadership position by working with secondary schools, higher education institutions, and business and community leaders. It is an awesome task. The question is how can it be done? The answer may lie in addressing, not just what we teach, but how we teach and how student outcomes will be affected.

TECH PREP/COMMUNITY COLLEGE ARTICULATION PLANS

Obviously, a most important feature of this program is the need for and the desire to have well developed articulation agreements. The policy and procedures established for articulation establishes the conditions and framework for secondary schools and community colleges to proceed. The task of determining how competencies will be measured and which courses will be used can be a monumental effort. The primary type of articulation involves the identification of a course or block of courses at the secondary level which can lead to either course credit at the community college or assistance in the entrance requirements, possibly

automatic acceptance which promotes the issue of access. "The distinct advantages to the student are the saving of time and money"(Guidebook). (Appendix C) As mentioned earlier, a priority consideration is the development of articulation from the secondary school to the community college to the senior college (2+2+2).

RESULTS OF RESEARCH RELATED TO ACCESS

A national survey of 450 tech prep coordinators in 1993 showed secondary and postsecondary schools participated in tech prep programs at almost even rates. 92% of secondary schools had a program and 88% of postsecondary schools were involved" (VTN,1994). The Winter '94 issue of "Educational Record," stated approximately 1,000 community colleges are working with some 2,500 school districts nationwide to design or implement tech prep curricula". This data seemed to reflect continuity in the program over the course of the year.

In reviewing fifteen states' Tech Prep programs, seven of the fifteen, 46.6%, had begun tech prep on a statewide basis. One state, Indiana, had mandated tech prep in all public schools and in the state of Maryland, one county school district had eliminated the general education track and replaced it with the tech prep track. Of the fifteen states, only two had fully embraced the 2+2+2 concept, California and Ohio.

The availability of community college credit was typically three credit hours with the tech prep students having done at least eight weeks of summer session courses at the community college (Delgado in New Orleans) to two full semesters of course work in high school. The California 2+2+2 program required students to take three courses at the (fashion) trade school to receive three credit hours in the university system. Only one plan (in Texas) indicated that a tech prep student could get as much as nine credit hours toward the associate degree. Other incentives for Tech Prep students ranged from automatic acceptance into a technical program to offering every tech prep student full tuition, fees, and books for both years of the A.S. program, under certain conditions through the year 1997 (Ohio).

A call to the Center for Occupational Development (CORD) did not result in any significant data. The employee for the National Tech Prep program indicated that a national survey is presently in progress which will hopefully lead to more pertinent data. There have been state reports, but much of the research findings have not yet been complied into one report, therefore, classifying is difficult. There have been isolated incidences of students progressing to the four year degree institutions after getting the associate degree, but no statistics on this were available.

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CONCLUSION

While Tech Prep is still in its infancy it seems to have a promising future. The Tech Prep/Associate Degree (TPAD) program can give students of all ability levels an opportunity to succeed in life and the opportunity to experience college by receiving at minimum an associate degree. From a theoretical standpoint it seems as though TPAD could be used as a method to increase access to higher education for all students ; it could also be a unique approach to the reform of the entire educational system.

The teaching of applied academics at the secondary level is definitely needed due to the technological demand in the work force; it is also a benefit to both teacher and student in terms of increasing motivational levels of both. Another most positive feature of the program is that of exposure. A number of students simply have not been exposed to the possibilities beyond high school. Being part of a tech prep program gives students the opportunity to see and work with college level faculty as well as business and community leaders. Another positive aspect is that students gain an understanding of why they need the education they are pursuing and because they can relate academics to other avenues of their lives, should have more appreciation for learning.

These aspects, although intangible, are most necessary in guiding behavior and increasing esteem.

In a network news bulletin of the SHEEO/NCES communication network (1994), an article discusses an address made by Pat Terenzini, Associate Director of the National Center on Postsecondary Teaching, Learning, and Assessment at Pennsylvania State University. This address challenged the audience to examine their biases about American higher education. Terenzini discussed "Some Myths about Undergraduate Education." He identified eight common myths. Some of the following reflect on the issue of TPAD.

Myth: "Two year college attendance penalizes a student." While many people believe that two-year community colleges offer a "second best" educational experience that penalizes students educationally, occupationally, and economically, a growing body of evidence suggests that two-year colleges may be quite competitive with four-year institutions.

Myth: "Our traditional instructional methods are effective ways to teaching undergraduate students." Although lecturing is the overwhelming method of choice for undergraduate teaching, research suggests that certain individualized instructional approaches such as audio-tutorial, computer based, and visual-based instructional methods are consistently more effective in enhancing learning.

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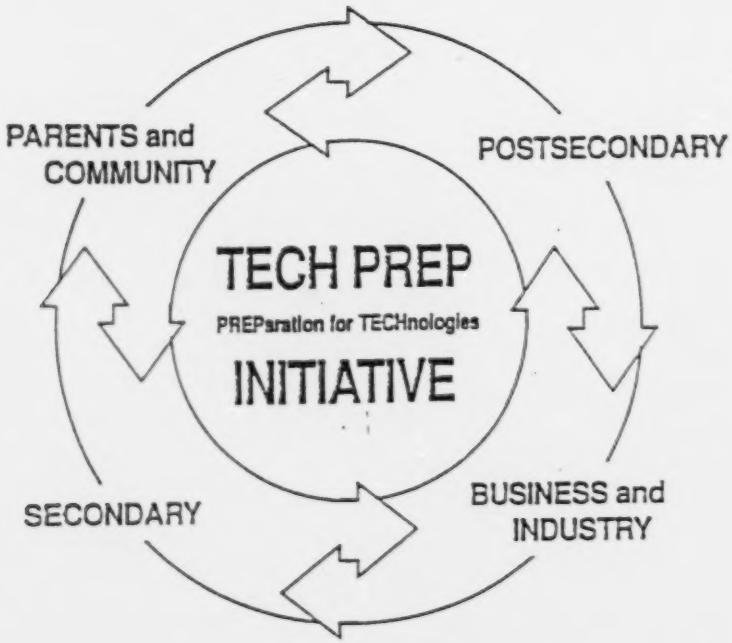
Myth: "Institutional prestige and reputation reflect educational quality." While most people believe that attending an institution with the conventionally-accepted earmarks of quality will lead to greater learning and development, the evidence suggests it probably will not. REAL quality in undergraduate education resides more in an institution's educational climate and what it does programmatically than in its prestige, reputation, and financial and educational resources.

There are certainly pros and cons of whether or not the TPAD program will really work, but research seems to indicate that it could. There is no doubt that this is a massive project to under take. While it could provide an answer to educational reform at all levels, the funding and implementation could be tremendous stumbling blocks.

Appendix A

POSTSECONDARY

- Improving teaching methodologies
- Enhancing articulation (secondary to two-year, two-year to four-year)
- Enhancing/developing curricula and interfacing programs with changing technologies
- Improving counseling, job placement, student support and transition activities



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Comparison of Mean Satisfaction Scores on the WS/DS Among Secondary School (SS), Community College (CC), and Four-Year College (4Y) Teachers

Composite Scales	Mean Satisfaction		
	SS	CC	4Y
Achievement	4.3	4.9	4.5
Growth	3.5	4.0	4.1
Interpersonal relations	4.7	5.2	4.8
Policy/administration	3.4	3.9	3.9
Recognition	4.1	4.4	4.4
Responsibility	4.3	4.8	4.6
Salary	2.7	3.7	2.8
Supervision	3.7	4.2	4.2
Work itself	4.8	5.5	5.2
Working conditions	4.1	4.6	4.1

Source: Riday et al

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Articulation Programs

Advanced-Skills Articulation Program

High School and Panola College vocational programs joined together for the purpose of extending training time in order to teach higher levels of skills than can be obtained in either program separately. The most common example is the 2 + 2 plan which provides a four-year training span.

Time-Shortened Articulation Program

Articulation program in which credit for occupational competencies mastered in the secondary occupational program may be transferred and applied to the same competencies required in the post-secondary program without unnecessary duplication of time and effort. The time required to complete the Panola program is thus shortened.

2+2+2 Articulation Program

A six-year curriculum in which the first two years are taught in grades 11 and 12 of a secondary school, the next two years in grades 13 and 14 of a two-year college, and the third two years in grades 15 and 16 of a four-year college. The program ends with a bachelor's degree and prepares students to a higher level than can be obtained in the 2 + 2 Plan.

Articulation Plan

A formal document used to specify which courses at the secondary school are accepted at the post-secondary school based on a comparison of competencies. Achievement levels and conditions are specified and the document is duly signed by officials from both schools.

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